

# Supply, Installation, and Configuration of Core Switch

## 1. TECHNICAL REQUIREMENT AND SCOPE OF WORKS

#	Requirements	Technical Compliance, Reference and Relevant Part Number
<b>1</b>	<b>01 Nos x Core Switch</b>	
	Network Interfaces: 24 x 1 GE/10 GE SFP+ ports and 2x 100 GE QSFP28 ports	
	The device shall support minimum 880Gbps switching capacity	
	The device shall support minimum 1030Mpps throughput	
	The device shall have minimum 64K MAC address storage	
	The device shall support up to 24k routing table	
	The device shall have minimum 8MB packet buffers	
	The device shall have minimum 8GB DRAM	
	The device shall support the following Layer 2 Features and Protocols: IEEE 802.1AX LAG, IEEE802.1D STP, IEEE802.1Q VLAN, IEEE 802.1s MSTP, IEEE 802.1w RSTP, IEEE 802.3ad LACP, STP BPDU Guard, STP Root Guard, Jumbo frames	
	The device shall have and include any required license for the following Layer 3 Features and Protocols: BFD, DHCP Relay, DHCP Server, OSPFv2, RIPv2, VRRP, BGP, ISIS, ECMP	
	The device shall have the following Security and visibility Features: ACL, Dynamic ARP inspection, IEEE 802.1ab LLDP, IEEE 802.1X Authentication, RADIUS Accounting, sFlow	
	The device shall support MCLAG high availability	
	The device shall have the following management features: Dual firmware, HTTP/HTTPS, IPv4 management, packet capture, RMON, SNMP v1/v2c/v3, SNMP, TFTP, SPAN, CLI, Web GUI, Syslog, Telnet/SSH	
	The device shall have front to back air flow	
	The device shall have redundant hot swappable AC power supply unit	

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	Form factor: 1 RU, rack mounting accessories should be included	
	6 x 10GE SFP+ SR transceiver module shall be included. The transceiver shall be from the same OEM.	
	6 x Duplex LC-LC, 5m, MM, OM5 fiber optic patch cable shall be included.	
	5 x 10GE copper SFP+ RJ45 transceiver module shall be included. The transceiver shall be from the same OEM.	
	02 x 10GE SFP+ LR transceiver module. The transceiver shall be from the same OEM.	
	02 x 100GE QSFP28 SR transceivers module with 2m fiber optic cable shall be included. The transceiver shall be from the same OEM.	
	The proposed device shall support direct security and management integration with the existing Fortinet Fortigate Firewall	
	Installation and Configuration as per specification 4	
	Warranty: 1-Year Parts and Service with 24x7 comprehensive Support, Hardware Replacement, Firmware Upgrades	
	Technical Support: 1-Year 24x7 on-site technical support services and labor	
<b>2</b>	<b>01 Nos x Installation, Configuration for Core Switch</b>	
	<p><u>Project Team</u></p> <p>To ensure successful implementation, the project delivery team must consist of OEM certified engineers who will be onsite for the duration of the installation, configuration, and migration work. The team should include:</p> <ul style="list-style-type: none"> <li>• Project Manager: responsible for overseeing the entire project and ensuring that all aspects of the project are completed within the timeline and budget.</li> <li>• Network Engineer: responsible for configuring the switches and integrating it with the existing FortiGate firewall, as well as verifying the proper functioning of the integrated solution.</li> <li>• Security Specialist: responsible for ensuring the integrated solution meets the necessary security requirements, including configuring access control, implementing secure communication protocols, and ensuring that the solution adheres to industry best practices.</li> </ul> <p>All members of the project delivery team must be OEM certified engineers and possess relevant industry certifications such as Fortinet NSE (Network Security Expert). They must have experience working with the proposed switch, FortiGate firewall. The onsite presence of the project delivery team is essential to ensure timely troubleshooting and problem resolution. They will be responsible for providing ongoing support and maintenance until the handover of the integrated solution to the client.</p>	

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	<p><u>Planning</u></p> <ul style="list-style-type: none"> <li>• Review the existing network infrastructure and topology.</li> <li>• Determine the required number of Switches and their placement in the network.</li> <li>• Identify any potential issues or challenges that may arise during the integration.</li> </ul> <p><u>Integration with FortiGate Firewall</u></p> <ul style="list-style-type: none"> <li>• Integrate with the existing FortiGate firewall.</li> <li>• Configure the FortiGate firewall to recognize and manage the core switches and edge switches</li> <li>• Configure VLANs, port settings, and any other necessary configurations.</li> </ul> <p><u>Configuration</u></p> <ul style="list-style-type: none"> <li>• Configure the Switches to work seamlessly with the FortiGate firewall.</li> <li>• Configure VLANs, port settings, and any other necessary configurations.</li> </ul> <p><u>Integration with Existing Network Topology</u></p> <ul style="list-style-type: none"> <li>• Integrate the new solution with the existing network infrastructure.</li> <li>• Configure the new solution to support any necessary protocols or applications.</li> </ul> <p><u>Testing and Verification</u></p> <ul style="list-style-type: none"> <li>• Conduct testing to ensure that the integrated solution meets the performance and security requirements.</li> <li>• Verify that the integrated solution is operating correctly and efficiently.</li> <li>• Prepare test results and verification reports.</li> </ul> <p><u>Training and Handover</u></p> <ul style="list-style-type: none"> <li>• Provide training to the network administrators on the configuration and operation of the integrated solution.</li> </ul> <p>Handover the integrated solution to the network team with all necessary documentation.</p>	

